

4.0 NATURAL AND CULTURAL RESOURCES (*italics represent changes to current plan*)

4.1 The Special Character of Tiverton

More than anything else, the abundance of natural resources and the town's cultural roots in its past characterize what is special about Tiverton. Farms, broad open spaces, forests and miles of scenic roadways in the south, and the rich ethnic and architectural heritage in the north give the town its fascinating diversity. Along the west side lies the beauty of an unspoiled coastline, treed neighborhoods, while low lying heather, bogs and swamps alternate with farms and crossroads hamlets in the eastern portion of the town. These are all precious qualities of small town New England that are rapidly disappearing, and qualities that townspeople fear will be lost in Tiverton's future. A central challenge of this plan is to protect these natural and cultural resources while at the same time providing for economic growth and housing needs. This chapter of the Comprehensive Community Plan describes the town's natural and cultural resource assets, and those planning measures needed to preserve them.

4.2 Natural Resources

Tiverton's natural setting is not only beautiful, but it also creates its own brake on development. Extensive wetlands are protected by state and federal wetlands regulations, while many other areas are not suitable for development because of poor soil conditions for residential septic systems. With the town's Building Official, Planning Board and Conservation Commission monitoring construction activities and state regulatory efforts, development cannot occur in many areas of the town.

The following sections describe the key natural features of the town and the constraints they impose on future development. The information for this analysis has been compiled from many sources including the Rhode Island Geographic Information System, the U.S. Geological Survey, field observations and the Comprehensive Plan Steering Committee.

Topography

The surface relief consists of a gently rolling topography that rises from the waterfront to low bluffs along the Sakonnet River. Low lying wetland areas along the coast and inland occupy large areas of the town. Higher elevations are some 200 to 300 feet above sea level. The highest elevation is Pocasset Hill in north Tiverton at about 320 feet. This elevation forms part of a ridgeline that extends north along Main Road to Fall River roughly parallel to the Sakonnet.

The bluffs overlooking the Sakonnet River rise quickly from the waterfront in north Tiverton. Further south they are separated from the shoreline by a coastal plain that is up to one mile in width. These bluffs offer many scenic views of the Aquidneck Island. They also represent another obstacle to development because of ledge formations near the surface.

Along the coastal plain are several important natural features, including ponds, wetlands, marshes and beaches. A 100-year floodplain forms part of the coastal plain and extends from a narrow strip along the northern shoreline to a broader area in the south. Seapowet Marsh and the Emily Reucker Wildlife Preserve form part of this floodplain.



The Sakonnet River

Soils

Soil conditions are particularly severe throughout the town due to poor drainage; and they are a major factor in any plan for development. An analysis of soils completed using the United States Natural Resources Conservation Service soil survey of Rhode Island showed that large areas of the town are unsuitable for many types of development, and particularly for septic systems. The RIGIS (Rhode Island Geographic Information System) analysis of soils, Figure 4-1, also indicates large areas with development constraints due to poor soil conditions.

Fresh Water Resources

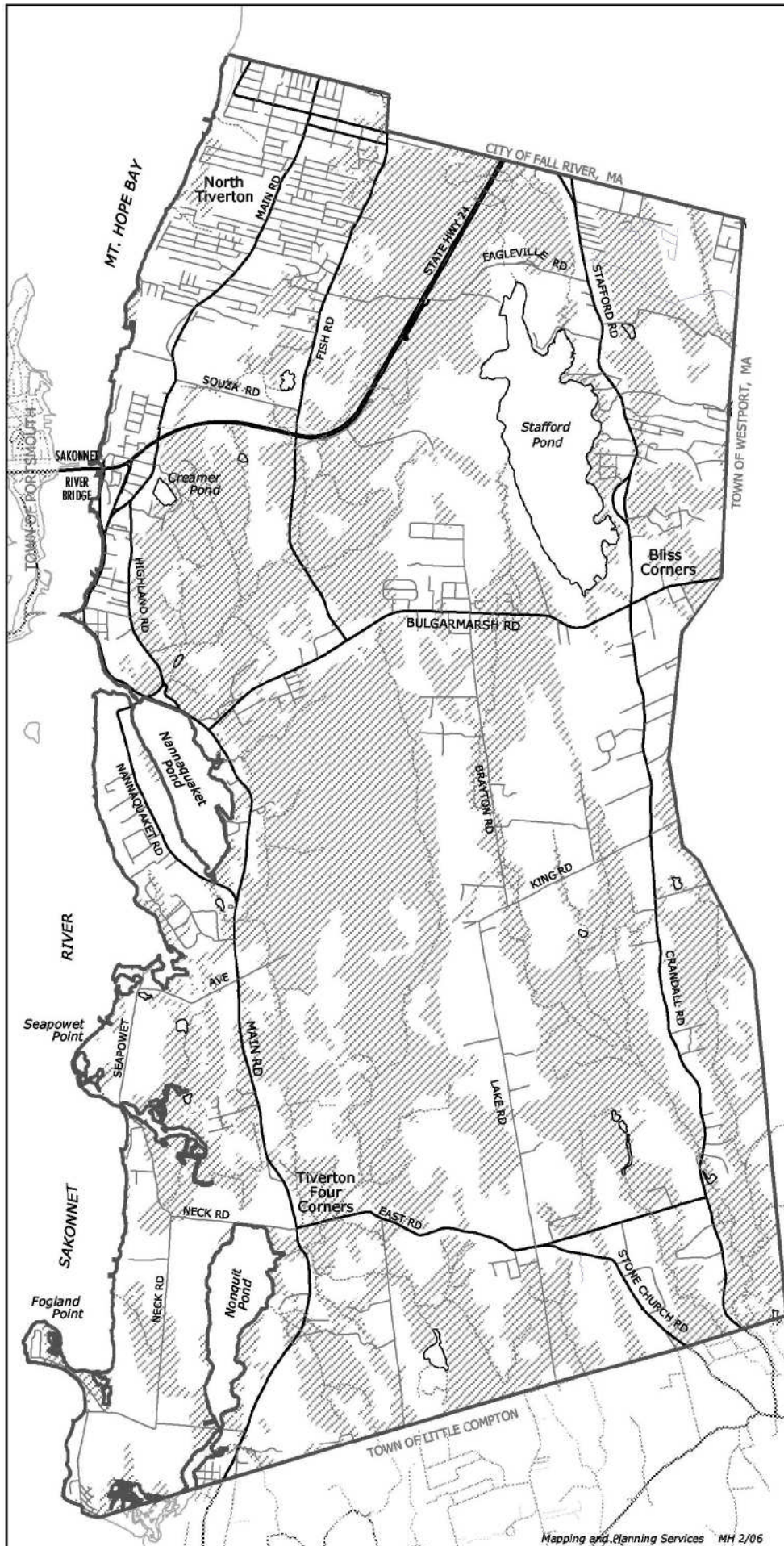
Surface water includes many small ponds and two relatively large ponds that are totally within Tiverton's geographic area. Stafford Pond is a primary source of the drinking water supply for Tiverton, Fall River and Portsmouth. *Although it lies within the Stafford Pond Watershed Overlay District, it is not fully protected because of ongoing recreational uses.* The protection of Stafford Pond and its watershed is a unique planning challenge because of growing development along its shores, the complexities of its ownership, long standing recreation use and the lack of a single overall management authority. *A comprehensive study initiated in 1996 by the RI Department of Environmental Management (RIDEM) identified two major sources of pollution - animal waste runoff from a dairy farm, and stormwater runoff from Stafford Road. Since then, "best management practices" (BMP's) have been established to control both sources of pollution. Moreover, a Total Maximum Daily Load (TMDL) plan has been implemented that sets a loading cap of 390 kg/yr of phosphorus entering the pond.*

DRAFT

CONSTRAINTS INCLUDE:

- BEDROCK
- SLOPE $\geq 15\%$
- HYDRIC SOILS
- SEVERELY HIGH WATERTABLE (0-18 IN. DEPTH)
- SEASONAL HIGH WATERTABLE (19-42 IN. DEPTH)
- and ALL OTHER SEVERE CONSTRAINTS (ROCK, SAND, etc.)

Source: RIGIS Soils.



0 1 Mile

The information depicted on this map is for general planning purposes only. It may not be adequate for legal boundary definition or regulatory interpretation.

TIVERTON COMPREHENSIVE
COMMUNITY PLAN



Figure 4-1 SOILS CONSTRAINTS

Other steps to protect Stafford Pond include the adoption of a town ordinance requiring mandatory testing of individual septic disposal systems around the pond, the publication and dissemination of a pamphlet entitled "Your Guide to Protecting Stafford Pond" and the proposed creation of a Stafford Pond Watershed Committee. The Watershed Protection Overlay District also includes a requirement that all on-site (individual) sewage disposal systems within the watershed be improved to the prevailing state and local standards by 2005. Nevertheless, the quality of water is still threatened by the widespread use of gasoline motors, jet skis, seaplanes, swimming and other recreational uses not compatible with a drinking water supply.

Nonquit Pond is part of the City of Newport's water system. As a public water supply it is Tiverton's responsibility to take measures, in cooperation with the Newport Water District, to protect this pond and its watershed. *Since 1997, significant steps have been taken to protect approximately 1,320 acres of Nonquit Pond watershed through the purchase of development rights and the purchase and protection of fields, forests and wetlands, including Cedar Swamp in Weetamoo Woods and the Pardon Gray Preserve. Problematic, however, is the threat of contaminated leachate from the Tiverton Landfill. This landfill abuts Cedar Swamp and several private homes that rely on wells for drinking water. Results from test wells around the perimeter of the landfill indicate the presence of lead, cadmium, arsenic and other contaminants, but in trace amounts well within regulatory limits. In 2001, revisions to the town's zoning ordinance included adding the watershed of Nonquit Pond to the Watershed Protection Overlay District.*

Easily overlooked because it is unseen, is the groundwater of Tiverton. This precious natural resource is just as important as surface water because it also supplies major portions of the town with fresh water from private residential wells. Protecting groundwater sources and maintaining drinking water is a major public concern. The State of Rhode Island uses a system to classify groundwater. Class GA is used to identify drinking quality groundwater sources. The town should assure that this classification is maintained. Threatening this resource are aging underground oil tanks and failing septic systems. Both problems must be addressed if Tiverton's citizens are to be assured of pure drinking water in the future. *In 1997 the town adopted an ordinance prohibiting new underground storage tanks (UST's), and requiring that all owners and operators of UST's register the tanks with the Tiverton Town Clerk. The registration form includes such information as tank size, construction type and material, and contents.*

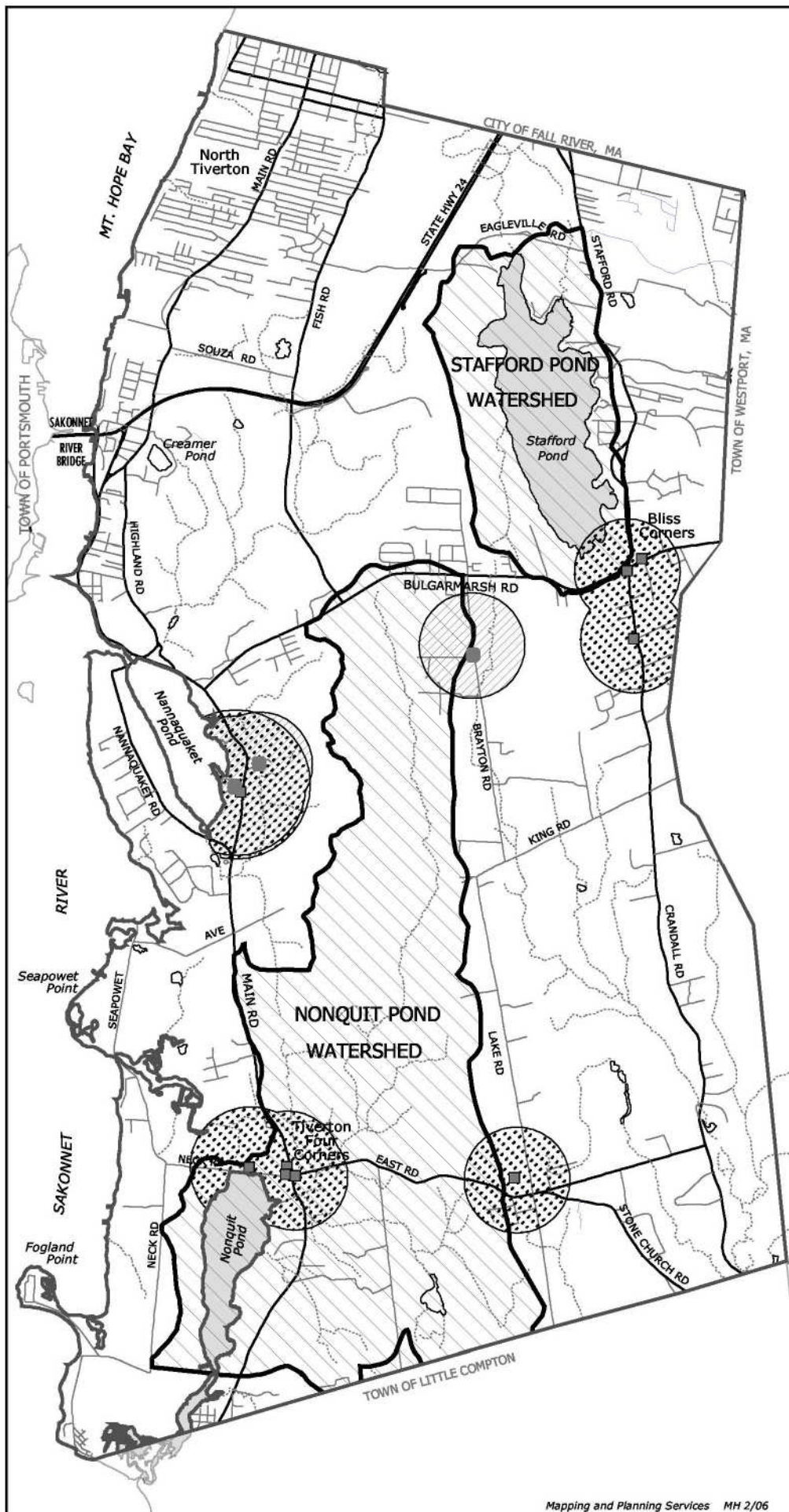
The RI Department of Environmental Management (RIDEM) has delineated wellhead protection areas for all public wells in the state, which define those areas through which water flows in the subsurface to the well. Consistent with RIDEM's wellhead protection program, the Conservation Commission undertook a pollution source inventory for each wellhead protection area to determine potential risks to each well. This effort was followed by a public education program regarding the risks associated with UST's, disposal of household chemicals and septic system maintenance.

The watershed areas of both Stafford and Nonquit ponds, as well as the wellhead protection areas, are depicted in Figure 4-2.

DRAFT

- COMMUNITY WELL
- NON-COMMUNITY WELL
- ▨ SURFACE WATER RESERVOIR WATERSHED
- ▩ SURFACE WATER RESERVOIR
- ▨ COMMUNITY WELLHEAD PROTECTION AREA
- ▩ NON-COMMUNITY WELLHEAD PROTECTION AREA

Source: RIGIS/RIDEM 2005
Wellhead Protection Areas.



0 1 Mile

The information depicted on this map is for general planning purposes only. It may not be adequate for legal boundary definition or regulatory interpretation.

TIVERTON COMPREHENSIVE
COMMUNITY PLAN



Figure 4-2
WATER RESOURCES

Surface Mining

Surface mining operations of sand and gravel *will* adversely impact ground and surface water by eliminating the filtering capacity and rendering groundwater vulnerable to contamination. Removing deposits decreases the depth to groundwater often leading to exposure of the water table. The use of heavy machinery in these operations makes the water table susceptible to diesel fuel, motor oil, hydraulic fluids and solvents. *The zoning ordinance amendments of 2001 limit the expansion of existing surface mines and new operations are now a prohibited use.*

Wetlands

Wetlands form a significant component of the land area of the town and are a major natural feature. Coastal wetlands comprise over 528 acres. These include large areas at Seapowet and Fogland Marshes. Inland wetlands comprise nearly 4,500 acres throughout the town. Major areas include Great Swamp and Cedar Swamp in south Tiverton, and Basket Swamp and Pocasset Cedar Swamp in the northern section of town. Wetland areas, *by categories*, are depicted in Figure 4-3.

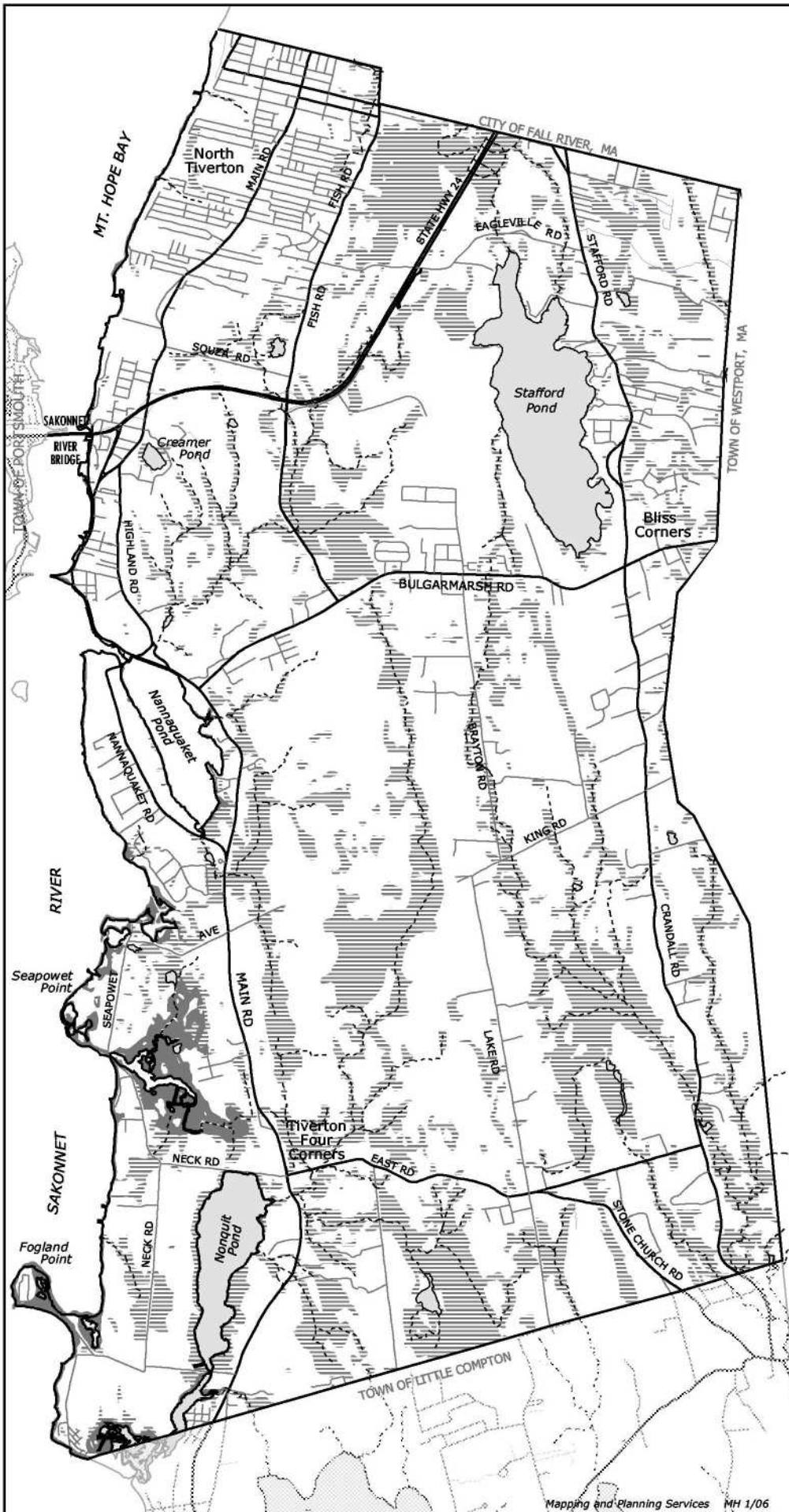


Seapowet Marsh is an extensive and scenic coastal wetland and wildlife habitat.

DRAFT

-  STREAMS
-  OPEN WATER BODIES
-  COASTAL WETLANDS
-  INLAND WETLANDS

Source: RIGIS Wetlands based on 1988 airphoto interpretation. Minimum mapping unit 1/4 acre. Not an official wetlands determination. Classified by wetlands jurisdiction.



The information depicted on this map is for general planning purposes only. It may not be adequate for legal boundary definition or regulatory interpretation.

TIVERTON COMPREHENSIVE
COMMUNITY PLAN

Figure 4-3 WETLANDS

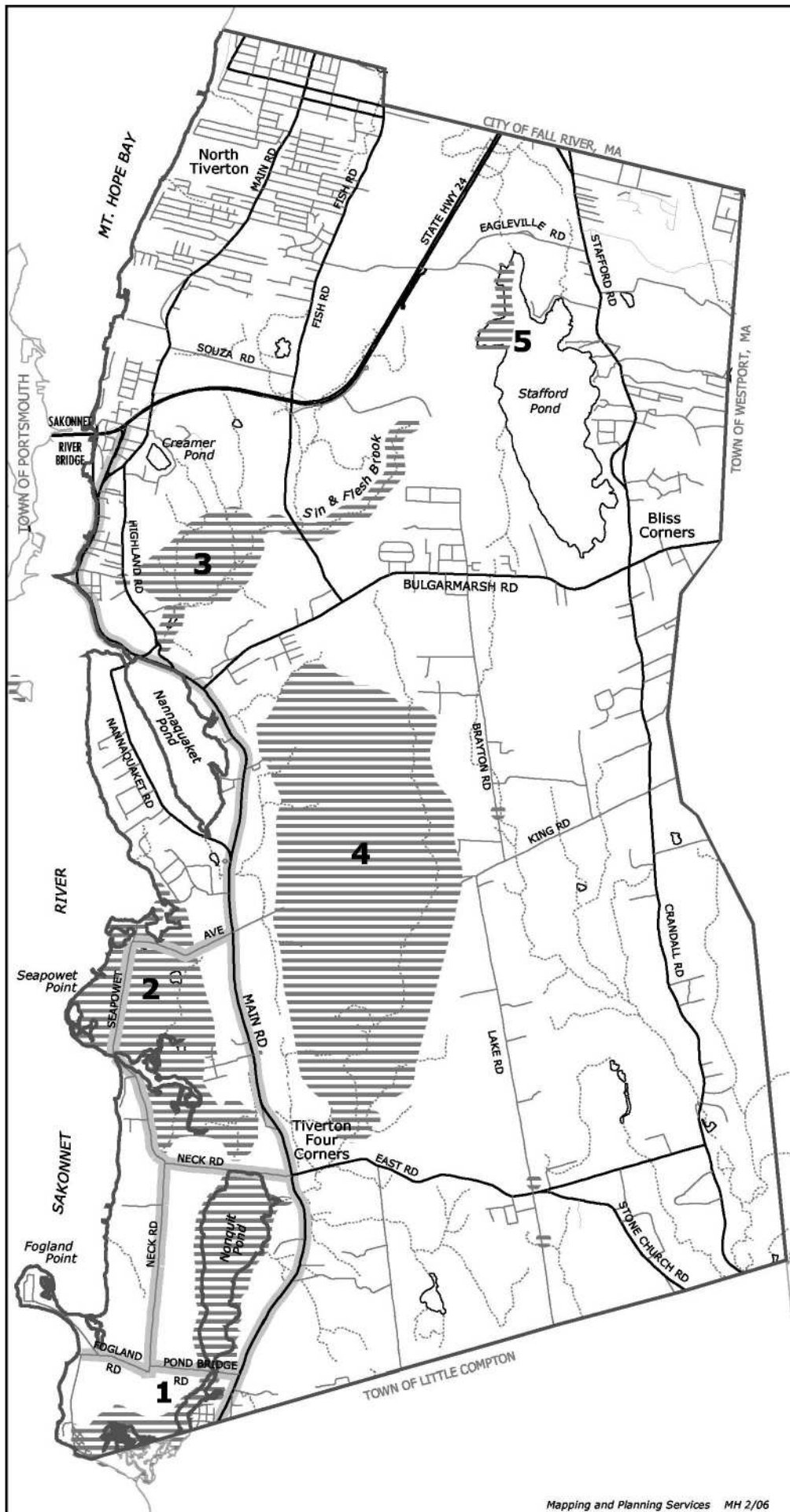


Rhode Island Natural Heritage Program

The Rhode Island Natural Heritage Program is a section of the Department of Environmental Management, Division of Planning and Development. The basic goal of the program is to identify, protect and manage rare species occurrences and ecologically significant natural communities. The Natural Heritage Program has identified special rare species habitats. These areas, shown in Figure 4-4, are described below:

- **Fogland Marsh** is a Nature Conservancy preserve, with adjacent tracts owned by the Rhode Island Department of Environmental Management. It is located on the Tiverton/Little Compton line, surrounding Almy Brook. This wetland is considered one of the best quality salt marshes in the state, never having been ditched or drained for mosquito control, and thus serves as a fertile nursery for fin and shellfish, and critical habitat for shorebirds and wading birds.
- **Seapowet Marsh** is primarily owned by the Rhode Island Department of Environmental Management with the Emily Reucker Wildlife Refuge, owned by the Audubon Society of Rhode Island, lying just to the north. This exemplary wetland provides breeding habitat for two state listed rare bird species, and is an important feeding area for wading birds, including egrets and ibis which breed nearby.
- **Sin and Flesh Brook** is an area that provides important forest habitat for several bird species rare in Newport County. The maintenance of this large unfragmented forest is critical to its value as habitat for these species. A long-term plan for conservation of this area would include protection from development as well as the exclusion of roads, utility rights-of-way, and other interruptions of the forest canopy.
- **Weetamoo Woods and the Pardon Gray Preserve** are large areas south of Lafayette Road containing a unique oak/holly forest community and habitat for *five* state listed rare species. As threats by encroaching development have grown, the *town's Open Space Commission and the private Tiverton Land Trust have responded by protecting, through state open space funding and private funds*, several hundred acres. Additional acquisitions with appropriate management would further protect this site.
- **Stafford Pond** (*note: explanatory text needed*)

In 2001, a study by The Nature Conservancy Rhode Island field office confirmed and expanded on the findings of the Natural Heritage Program. Entitled "A Conservation Plan for Wetlands and Associated Natural Resource Areas in Little Compton and Tiverton, R.I.", the study confirmed at least five state-listed rare species in the natural communities that make up the coastal forest of south Tiverton. They are (1) Acadian Flycatcher, (2) Eastern Ribbon Snake, (3) Henry's Elfin Butterfly, (4) Worm-eating Warbler, and (5) Squawroot.



- RARE SPECIES HABITAT AREAS:**
- 1 FOGLAND MARSH
 - 2 SEAPOWET MARSH
 - 3 SIN AND FLESH BROOK
 - 4 WEETAMOO WOODS / PARDON GRAY PRESERVE
 - 5 STAFFORD POND

Sources: RIGIS/RIDEM Rare Species 1997 and Town of Tiverton 2006.
Estimated habitat and range of rare species and noteworthy natural communities.

SCENIC ROADWAYS

DRAFT



0 1 Mile

The information depicted on this map is for general planning purposes only. It may not be adequate for legal boundary definition or regulatory interpretation.

TIVERTON COMPREHENSIVE
COMMUNITY PLAN



Figure 4-4
**NATURAL HERITAGE
& SCENIC RESOURCES**

4.3 Cultural Resources

Cultural resources can be thought of as the human imprints on Tiverton that make it an interesting place to live--the archaeological treasures of its ancient past, the architectural treasures of its colonial past, its farmhouses, stone fences and villages. These give the town depth and texture, and must be held onto if Tiverton is to retain its uniqueness. Three important cultural resource areas are considered in this plan; rural character, scenic resources and historic resources.

Rural Character

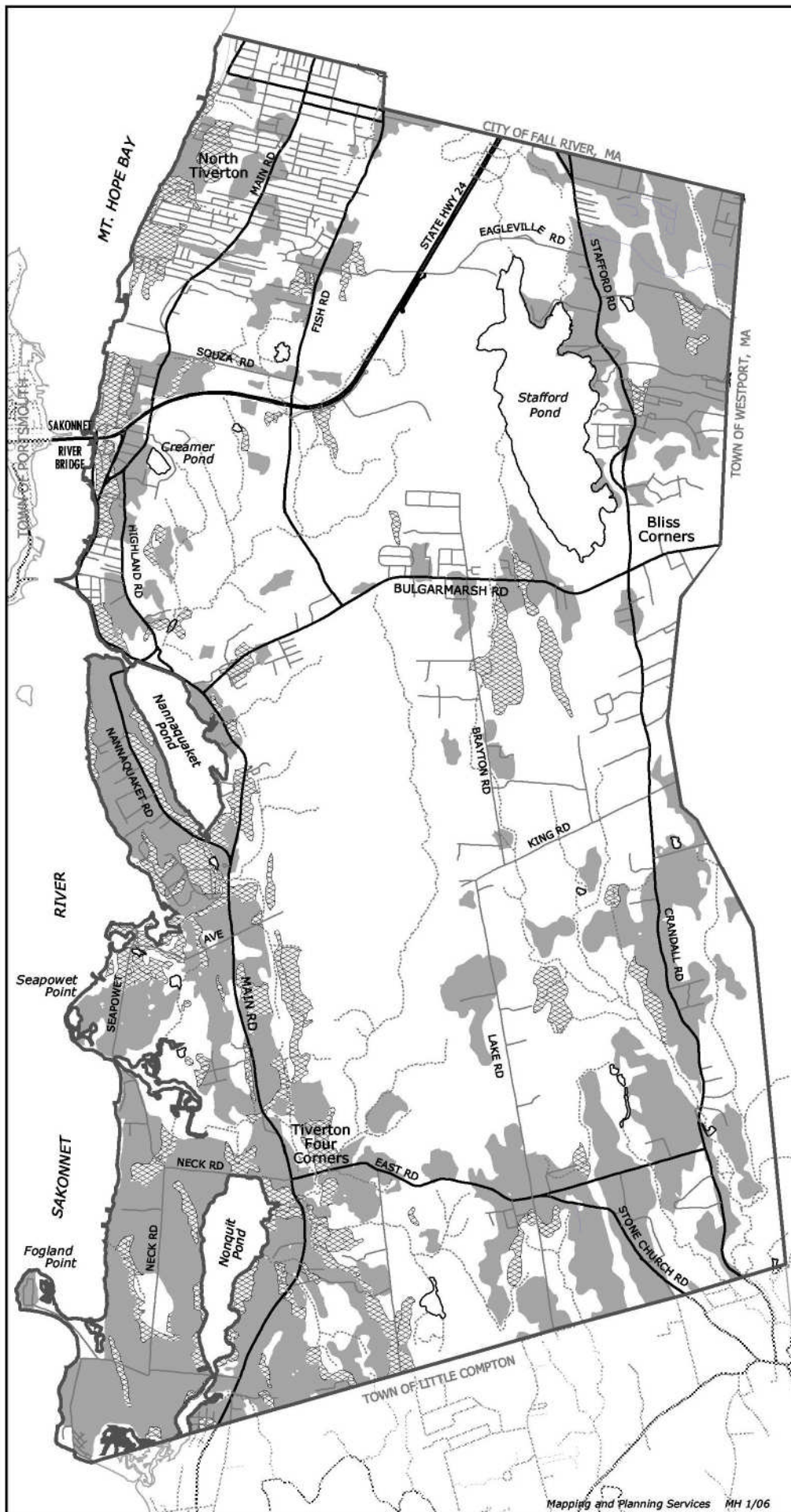
Rural character is somewhat difficult to define; yet it is unequivocally clear that people want to keep it. Rural character is a combination of many "small town" things about Tiverton that makes it charming--its open land, trees, scenic views, country lanes, *stone walls, historic buildings*, farms, wildlife and many other qualities that are associated with "country life" that disappear in *sprawling, unplanned suburban and urban development*. But they do not have to disappear if Tiverton is willing to plan and manage its future development. Many tools are presently available; from administrative actions like zoning and subdivision site plan processes to volunteer efforts such as land trusts. If these tools are carefully thought-out and implemented, it is possible to provide ample opportunity for housing development and economic growth while still retaining the town's rural character. In fact, this is not only possible, but studies have shown that such management practices actually enhance rather than inhibit local economies, because they ensure a community will continue to be a desirable place to live and work.

Scenic Resources

Tiverton is renowned for its scenic qualities. In 1990, the State of Rhode Island released a landscape inventory of scenic areas throughout the state. Four areas of the town were identified as distinctive or noteworthy. These are Fogland Marsh, Seapowet Marsh, Sin and Flesh Brook and Weetamoo Woods. *These areas correspond to the areas identified by the RI Natural Heritage Program as ecologically significant habitat areas, as shown in Figure 4-4.* Many roadways in the Town also exhibit scenic qualities worthy of protection. *The "Inventory of Rhode Island Roadways with Scenic Character" completed in 1996 for the RI Scenic Roadways Board identified Main Road south of Route 24 (Route 77), Seapowet Avenue, Neck Road, Fogland Road and Pond Bridge Road as all possessing scenic character worthy of designation as state scenic roadways.*

Prime Agricultural Land

Farmlands are an important resource in the town. According to RIGIS there are approximately 4,866 acres *consisting of soils that are suitable for use as* prime agricultural land in Tiverton. Those areas are illustrated in Figure 4-5. Agricultural land is generally well-drained, deep loam soils that are also ideal for building sites. Therefore, there is inevitable pressure to develop on soils that form the best cropland in town. The economic contribution of agricultural lands to the town is discussed in Chapter 10.



PRIME FARMLAND SOILS
 IMPORTANT FARMLAND SOILS

Source: RIGIS Soils.

DRAFT



The information depicted on this map is for general planning purposes only. It may not be adequate for legal boundary definition or regulatory interpretation.

TIVERTON COMPREHENSIVE
 COMMUNITY PLAN



**Figure 4-5
 AGRICULTURAL SOILS**

The State of Rhode Island, through its Agricultural Land Preservation Commission, provides for the purchase of development rights as a means for preserving farmlands. *The program is administered by the RIDEM Division of Planning and Development through its Agricultural Land Preservation Program, which provides funding to assist in the purchase of the rights to develop the land residentially, an amount calculated as the difference between the fair market value of land and its value if restricted to agricultural use. The seller continues to hold title to the land, but a covenant is assigned to the property, which restricts the seller and their heirs from any further subdivision or any development other than for agricultural purposes. Additionally, the state's "Farm, Forest and Open Space Program" allows farmers and other landowners to receive a lower tax assessment on such land, with the resulting tax savings serving as an incentive to keep the land in agricultural use or undeveloped.*

The U.S. Department of Agriculture's Natural Resources Conservation Service provides additional incentives for landowners who protect and enhance land and water resources. The Wetland Reserve Program, for example, purchases development rights on wetlands, while the Farmland Protection Program, the Conservation Reserve Program and the Forest Legacy Program provide other financial incentives for landowners. More should be done to acquaint landowners with such land preservation programs.

Historic Resources

An inventory of historic and architectural resources prepared by the Rhode Island Historical Preservation Commission (RIHPC) in 1983 identified significant buildings, historic districts and areas, and historic sites in Tiverton. This inventory serves as a basis for prioritizing historic preservation efforts. *Figure 4-6 indicates the locations of the resources identified in this survey (as updated) that are on or eligible for listing on the National Register of Historic Places. These resources are listed in Table 4-1. As of 2006, there are three historic districts formally listed on the National Register, the Tiverton Four Corners Historic District, the Cook-Bateman Farm Historic District, and most recently, the Osborne-Bennett Historic District on Main Road, each containing numerous historic structures. There are also two properties individually listed, Fort Barton and the Joseph Hicks House.*



The Osborne House is part of Tiverton's history along Main Road.

DRAFT

NATIONAL REGISTER LISTINGS:

- HISTORIC DISTRICTS
- A Osborne-Bennett
- B Tiverton Four Corners
- C Cook-Bateman Farm
- * HISTORIC SITES
- D Jos Hicks House
- E Fort Barton

POTENTIAL NATIONAL REGISTER LISTINGS:

- 1 Puncateest Neck Historic District
- 2 Peleg Stafford House
- 3 Sakonnet River Railroad Bridge
- 4 Capt. Isaac Church House / St. Christopher's Rectory
- 5 St. Peter's By the Sea
- 6 Col. David Durfee House / Manchester's House
- 7 William Durfee Farm
- 8 Old Durfee Farm
- 9 Federal Homelands
- 10 Nathaniel Briggs-Manchester House, The Stone House
- 11 Thomas Gray-Durfee House
- 12 Samuel Wilcox House / The Brick Front
- 13 Cory-Hicks-Borden-Gardner - Stevens House
- 14 Edward Cook Farm, G. Cook Farm, White Homestead
- 15 Justice Walter Cook House
- 16 Capt. Abel Manchester House
- 17 The Old Stone Church / First Baptist Church
- 18 Baker House

See Table 4-1 for listing.

Source: RIGIS / RI Historic Preservation Commission.



0 1 Mile

The information depicted on this map is for general planning purposes only. It may not be adequate for legal boundary definition or regulatory interpretation.

TIVERTON COMPREHENSIVE
COMMUNITY PLAN



Figure 4-6 HISTORIC RESOURCES

TABLE 4-1
HISTORICAL AND ARCHITECTURAL RESOURCES
(Updated, 2006 -- Draft)

<u>Site</u>	<u>Date</u>	<u>Location</u>
National Register Listings		
A. Osborne-Bennett Historic District		<u>Main Road</u>
Bennett/Hambly House	c. 1822	1137 Main Rd
Osborn House	c. 1845	1148 Main Rd
Thomas Osborn House	c. 1790	1168 Main Rd
Judge Joseph Osborn House	c. 1845	1188 Main Rd
B. Tiverton Four Corners Historic District		Main Rd/East Rd
Soule-Seabury House		
Smith House		
Chase-Cory House		
C. Cook-Bateman Farm Historic District	c. 1730	Puncateest Neck Rd
D. Fort Barton	1776	Highland Rd
E. Joseph Hicks House		494 Main Rd
Potential National Register Listings		
1. <u>Puncateest Neck Historic District</u>		Fogland Rd/Puncateest Neck Rd/Neck Rd
2. Peleg Stafford House	18th Century	305 Main Rd
3. Sakonnet River Railroad Bridge	1898	Sakonnet River
4. Capt. Isaac Church House/ St. Christopher's Rectory		1660 Main Rd, Stone Bridge
5. St. Peter's By the Sea (former church)		Highland Rd
6. Col. David Durfee House/ Manchester's Home	1826	2698 Main Rd
7. William Durfee Farm	1768	2794 Main Rd
8. Old Durfee Farm		405 Nanaquaket Rd
9. Federal Homelands	c. 1760 et seq.	575 Nanaquaket Rd
10. Nathaniel Briggs-Manchester House	pre 1777	68 Indian Point Rd
The Stone House	1919	43 Penny Pond Rd
11. Thomas Gray-Durfee House	18th Century	432 Seapowet Rd
12. Samuel Wilcox House/The Brick Front	Late 18th Century	200 Neck Rd
13. Cory-Hicks-Borden-Gardner -Stevens House		Main Road
14. Edward Cook Farm		4340 Main Rd
G. Cook Farm		4375 Main Rd
White Homestead	Late 18th Century	4398 Main Rd
15. Justice Walter Cook House		East Road
16. Capt. Abel Manchester House	c. 1780	733 East Rd
17. The Old Stone Church/ First Baptist Church	1841	Old Stone Church Rd
18. Baker House	c. 1700 et seq.	1975 Crandall Rd

Source: RI Historical Preservation Commission.

A preliminary archaeological survey by RIHPC determined that Tiverton is also potentially one of the richest archaeological regions in New England. Its abundant shallow coastal waters and protected upland areas have been home to Native American cultures for thousands of years. The survey resulted in a proposed "Seapowet Archaeological National Register District."

4.4 Natural and Cultural Resources Goal and Objectives

Goal

Preserve and protect the natural features and unique cultural qualities that contribute to the special character, identity, heritage and environmental quality of Tiverton.

Objectives

- Protect the rural character of the community, including agricultural activities, woodlands, physical elements of the rural landscape and the rural coastline.
- Protect those natural features that sustain the basic functions of the town, including *high air quality*, surface and groundwater, wetlands and coastal features.
- Preserve biological diversity *and integrity* through protection and management of state and federally-listed rare species habitat areas and ecologically significant natural communities, *and through public education*.
- Protect the environment from potential sources of contamination.
- Preserve and enhance the visual quality of the community and its natural beauty.
- Preserve the historic and architectural features and the special areas of the community that contribute to its unique character.



The Old Stone Church

4.5 Natural and Cultural Resource Policies

Rural Character

Despite areas of urban and suburban development, Tiverton has a strong identity as a rural community. The small town atmosphere and rural setting are among the most valued characteristics of the community. Yet the balance between the preservation of these qualities and the pressure for growth and change are particularly precarious. An active program that identifies those areas that should be preserved, and incorporates available conservation techniques, *continues to be needed despite the progress made by the Tiverton Open Space Commission and the Tiverton Land Trust in protecting individual parcels of land.*

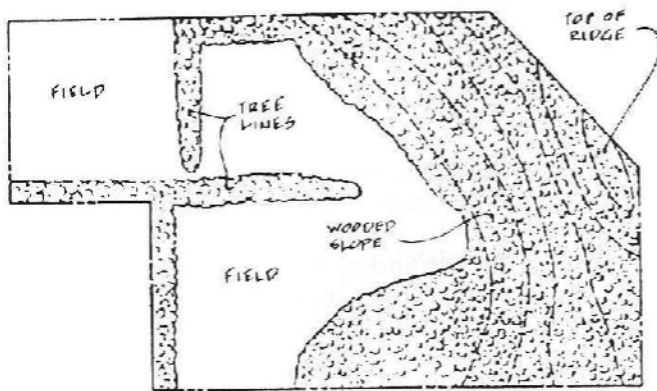
Policy 1: *Continue an active program of land acquisition to protect open space and rural character using the selection criteria described in the Open Space, Coastal Resources and Recreation Chapter.*

Protection of the town's rural character goes beyond aesthetic qualities. It is inextricably linked to other objectives such as protecting water quality, preventing environmental degradation and preserving agriculture. The rural character of Tiverton is defined by the following elements: agricultural activities; wetlands and other natural constraints; woodlots; large open fields; stonewalls, barns, silos and other structures; clustered buildings separated by large areas of open space; and similar features. Each of these elements requires a degree of recognition and protection as key values of Tiverton.

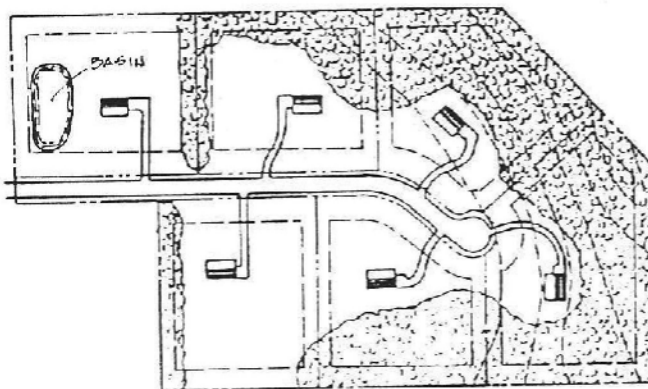
Policy 2: *Identify and develop an awareness and appreciation of elements of the rural character, such as farms, barns, open fields, stonewalls, mature trees, tree rows, and treed neighborhoods.*

Conventional development regulations, originating in urban settings, are poorly equipped to protect these values. Large lot zoning, as in the R-60 and R-80 districts, while effective in producing large lots, does *not necessarily* protect rural character as defined above. A combination of techniques to regulate uses, densities and site design are essential (See Figure 4-7)

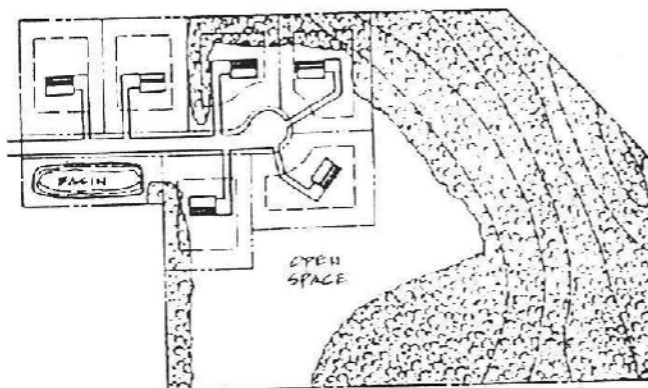
Rural residential development, a concept evolved from cluster development, provides for the evaluation and protection of the character defining features of a site as part of the development process. As an alternative to conventional subdivisions, rural residential developments incorporate conservation design techniques that protect important features through use of flexible zoning, different engineering and design standards, and in some cases, reduced site density. Amendments to the zoning ordinance in 2001 followed by those to the subdivision regulations in 2003 authorize alternative development plans in the form of rural residential developments in place of conventional subdivisions. Rural residential developments are mandated within the Watershed Protection Overlay Districts.



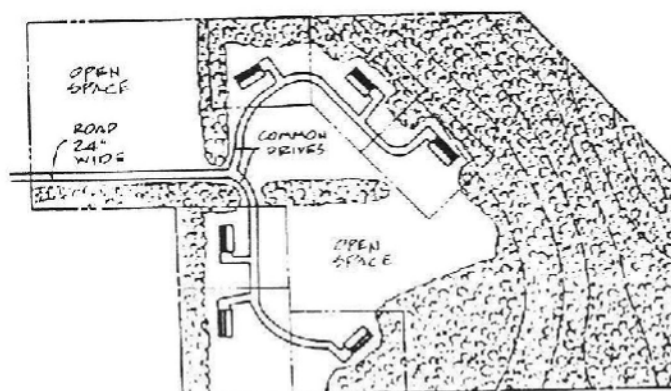
- ① Existing Conditions
20 Acres
Farm Fields
Wooded Slopes



- ② Conventional Development
6 Large Lots
Conventional Roadway
Cul-de-sac



- ③ Cluster Development
6 Lots
Shorter Conventional
Roadway
Cul-de-sac



- ④ Creative Development
6 Lots
Common Driveways
Short Road

TIVERTON COMPREHENSIVE
COMMUNITY PLAN



**Figure 4-7
SITE DESIGN
ALTERNATIVES**

Policy 3a: *As development occurs, the Planning Board should work with developers to promote rural residential developments as the preferred type of development pattern, particularly in the town's rural and less developed areas.*

Policy 3b: *To assist in the creation of high quality and well designed rural and conservation developments, the Planning Board shall use the services of professional design consultants to work with developers, as needed.*

Protection of the town's tree resources has aesthetic and scenic value. By enhancing property values and lessening the impacts of residential development, it has a sustainable economic benefit as well. In 2001, the Tree Commission, the Conservation Commission and the Open Space Commission endorsed a Notable Tree Program to identify and record rare and unusual trees and trees of significant age, size, and visual appeal. In 2002, the Tree Commission established a Tiverton Neighborhood Tree Program to provide a permanent source of resources for street tree planting throughout the town.

Policy 4a: *Promote local stewardship of the town's tree resources utilizing the Plan for Urban and Community Forestry (State Guide Plan Element 156, May 1999) as a reference.*

Policy 4b: *Continue to require protection of existing significant trees and to specify replacement trees for new developments and subdivisions.*

Visual Quality

A great number of things make Tiverton a wonderful place to see, including beautiful landscapes, old buildings and some attractive newer developments. There should be aesthetic standards for commercial areas to encourage the creation of safe, attractive and efficient centers, rather than unsightly strips. The town has general standards for signage and the siting of development within commercial zones. These standards should be reviewed on a district-by-district basis. Additional design guidelines for commercial, mixed use, and major residential developments governing signs, lighting, utility wires, landscaping, buffering, parking and the architectural style and design of development were included in amendments to the subdivision regulations in 2003. In 2005 the town initiated a design standards project to set more detailed building and site design criteria for new development in all commercial districts in town.

Policy 5: *Establish a design review commission to assist the Planning Board in approving architectural designs for new commercial and mixed use development compatible with the town's historic and rural character.*

Because of the special historic qualities of the area, the local commercial district around Tiverton Four Corners merits special consideration. The 2001 zoning revisions established a "Village Commercial" District for the Four Corners area. Design

guidelines for this area should be prepared with emphasis on pedestrian amenities, lighting, utility wires, signage and historic compatibility.

Policy 6: *Adopt specific design standards for new commercial and mixed use developments in town, including specific design guidelines and standards for the Tiverton Four Corners area.*

Public and private development must be sensitive to, and compatible with, natural and scenic qualities. "Viewsheds" or scenic vistas within the line of sight of motorists and pedestrians from certain sites and passageways should be preserved for the enjoyment of the public. In 2003, the Planning Board adopted amendments to the subdivision regulations that established viewshed protection measures. The Planning Board should continue to be sensitive to viewshed protection by maintaining buffers, protecting stone walls and mature trees, and by considering the impact of the placement of structures as they relate to open fields and hills. The town could incorporate more specific standards within a scenic roadways overlay district that regulates development within the viewsheds of the town's scenic roadways in south Tiverton.

Policy 7a: *Continue to identify natural and scenic vistas and apply standards for their protection as part of the development process.*

Policy 7b: Consider the establishment of a scenic roadways overlay district that includes standards for the protection of scenic defining features within important viewsheds.



New development in Four Corners should complement its historic character

Surface Water and Groundwater Supply

Underground storage tanks (UST's) containing petroleum products and other hazardous materials pose a threat to surface and groundwater supplies. Most of these tanks are

constructed of steel, with no corrosion protection. *Currently, the town prohibits new UST's and requires homeowners to register all existing UST's on their property. Federal law (Resource Conservation and Development Act) regulates commercial UST's.*

Tiverton should determine the location of abandoned UST's that may be sources of pollution, and establish a program for their clean-up, removal and sealing. In addition, the town should identify potential sources of pollution from gas stations and private pumps by maintaining current maps monitoring their locations. The RIDEM lists *approximately 90 registered and regulated UST's at 30 locations in Tiverton. Figure 4-8 identifies locations of UST's that have experienced leaks and other hazardous sites as identified by RIDEM. Tough federal regulations (40 CFR 280-282) impose new construction, monitoring and reporting requirements on regulated USTs, and mandate specific remedial action if spills/releases occur. The town currently issues an annual operating license to commercial UST operators, but should require documentation that operators are meeting all federal and state requirements as a condition for receiving an annual license.*

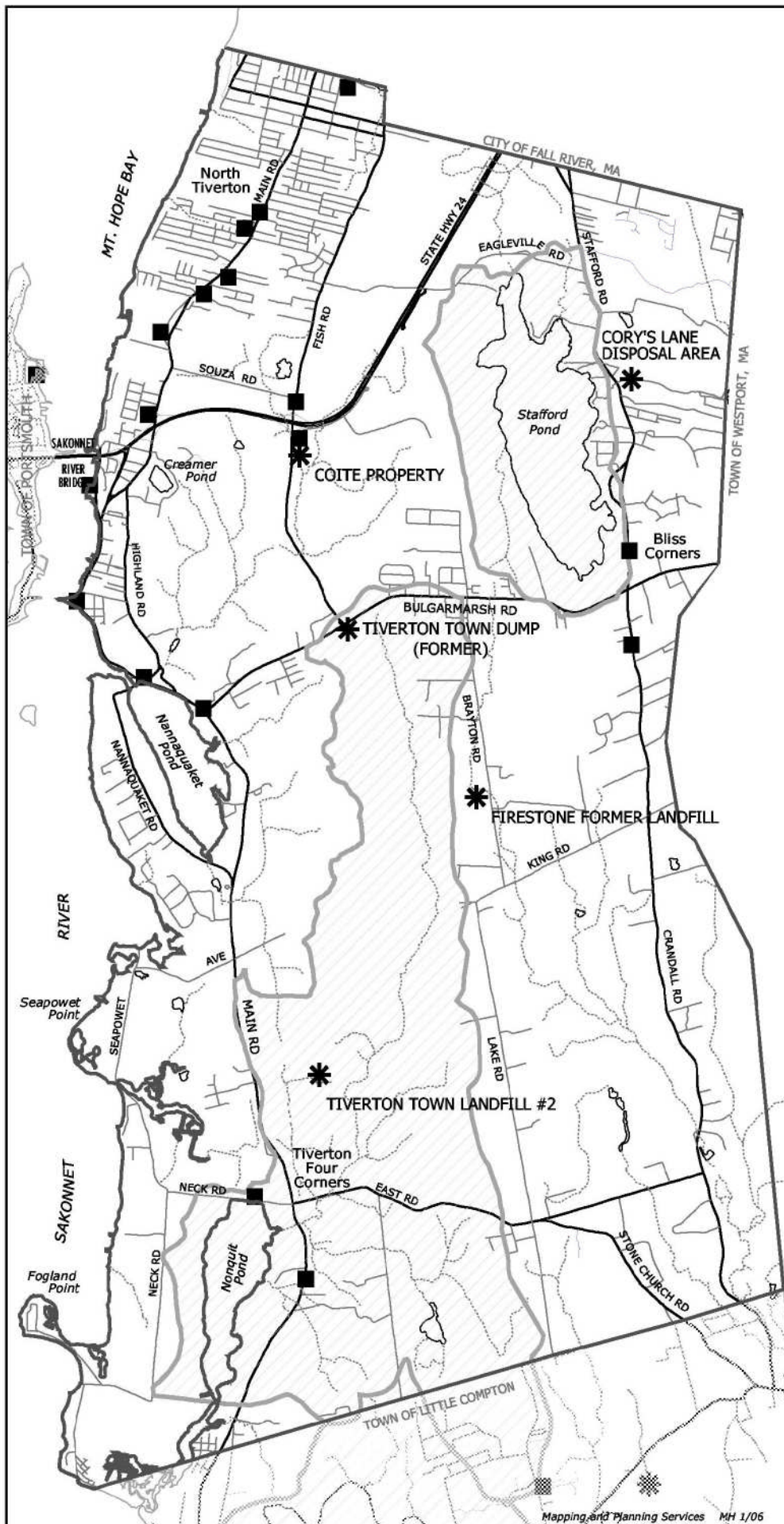
The shipment of hazardous materials through Tiverton and the common disposal of household hazardous wastes are other potential sources of pollution that can injure soil and water resources. *Also problematical is the large number of decaying motor vehicles on both residential and business property. As these vehicles rust and decay, harmful substances are released into surface and groundwater.*

Policy 8a: **Review procedures to identify and monitor underground storage tanks. Require UST operators to provide permit documentation as a condition of receiving an annual operating license.**

Policy 8b: *Enforce existing regulations to prevent potential pollution from decaying vehicles in junkyards and other private properties in town.*

Stafford Pond

The protection of the Stafford Pond watershed is particularly urgent since the pond is the town's principal supply of public drinking water; distributed by the town's two water districts (see Chapter 7). The establishment of a citizen watchdog group for that watershed area could be particularly effective in monitoring activities which would impact water quality and educating citizens about the need for watershed protection. This group could also guide the development of a management plan for the Stafford Pond watershed. In addition, while the pond benefits from the restrictions contained in the Watershed Protection Overlay District and the use of best management practices at the dairy farm and the Stafford Road stormwater drain, the continued use of gasoline motors on the pond is detrimental. The town recognizes the legitimate recreational rights of waterfront homeowners, but the entry of gasoline powered craft from the boat ramp is inappropriate to a drinking water supply.



- STORAGE TANKS USED FOR PETROLEUM & CERTAIN HAZARDOUS SUBSTANCES THAT HAVE EXPERIENCED LEAKS AS DETERMINED BY RIDEM.
- * HAZARDOUS MATERIAL SITES DESIGNATED BY THE U.S. EPA and RIDEM
- ▨ PUBLIC DRINKING WATER SUPPLY WATERSHED

Source: RIGIS 1997 CERCLIS
RIGIS 1999 LUSTs.

DRAFT



The information depicted on this map is for general planning purposes only. It may not be adequate for legal boundary definition or regulatory interpretation.

TIVERTON COMPREHENSIVE
COMMUNITY PLAN



**Figure 4-8
HAZARDOUS SITES**

Policy 9a: **Establish a Stafford Pond Watershed Association that includes representatives of the water districts, town boards and commissions, residents and business people which have an interest in the watershed.**

Policy 9b: *Request that the Rhode Island Department of Environmental Management close the Stafford Pond boat ramp to gasoline powered craft.*



Stafford Pond, the town's principal public drinking water source

Nonquit Pond

The City of Newport, which owns the water rights to Nonquit Pond, *has worked in conjunction with the RIDEM and the town to protect the watershed through the acquisition of land. These efforts were reinforced when the Watershed Protection Overlay District was extended to the Nonquit Pond watershed as part of town-wide zoning amendments adopted in 2001.*

However, the Tiverton landfill is located within the Nonquit Pond watershed, and Borden Brook, which feeds Nonquit Pond, also drains from the landfill. There is clearly potential for contamination by leachate from the landfill. *In 2001, the Town Council established a Landfill Committee to monitor possible leachate contamination of Cedar Swamp, Nonquit Pond and private drinking water wells in the area. New monitoring wells have been built and both groundwater and surface water testing has been intensified. Control measures to curb both leachate and surface water runoff through contouring and a new retention pond are being implemented. Engineering analysis has determined that the landfill will reach capacity at about the year 2015, at which point it must be closed and capped.*

Policy 10: *Continue to monitor potential leachate contamination from the Tiverton landfill.*

Wetlands

The vast inland and coastal wetlands of the town serve essential functions for water quality such as providing groundwater recharging areas and wildlife habitat. They also assist in flood control as storage areas, and act as giant sponges that slow the velocity and amount of stormwater.

The RI Department of Environmental Management has responsibility for the identification of wetlands, the determination of their significance and the regulation of activities that would lead to their decline. An ongoing program to monitor potential infractions of wetlands should be conducted at the local level. *Zoning regulations adopted in 2001 require a minimum building area that excludes wetlands and other means to protect these vital natural resources.*

Policy 11: Preserve wetlands to protect groundwater recharge areas, control flooding and preserve wildlife habitats by ensuring compliance with the Rhode Island Freshwater Wetlands Act.

Coastal Features

There are three components to the Tiverton coastline - the harbor area around the Tiverton Basin, the scenic coastline to the north and south, and the coastal environmental features at Fogland and Seapowet Marshes. Each of these areas requires a different treatment.

The harbor area is Tiverton's working waterfront and is important to the town's economy. It is regulated in accordance with an approved and periodically revised Harbor Management Plan. This plan covers the operation of the Harbormaster's Department, which controls mooring assignment and fee collection, as well as oversight of the Harbor Patrol, which is responsible for boating safety and rescue missions. The Harbor Management Plan, which balances marine uses with protection of the ecosystem, must be approved by the RI Coastal Resources Management Commission (CRMC).

Policy 12: *Update the Harbor Management Plan as necessary to ensure protection of environmentally sensitive areas, as required by the CRMC.*

Tiverton's scenic coastline contains unique features and vantage points that add to the town's waterfront character. Views from the coastline and from the water to the coastline are important assets that merit preservation. Key vantage points should be identified. Siting of structures along the coastline should consider the impact on coastal views, and the siting of facilities within environmentally sensitive areas of the coast should consider their impact on the area's natural and scenic qualities.

Policy 13: Define coastal scenic views and consider standards for their protection.



Tiverton is known for its coastal scenery

Environmental Quality

The State of Rhode Island has promulgated standards for the abatement and control of soil erosion and runoff of sediments from construction sites. These standards, found in the RI Soil Erosion and Sediment Control Handbook, are an important resource for review procedures, and serve as a starting point for technical guidelines for applicable construction operations, and for sand and gravel site operations and restabilization. Tiverton currently has a stringent soil erosion and sediment control ordinance written in accordance with state guidelines. *The Phase II Storm Water Management Plan, adopted by Town Council in 2003, calls for amendments to the Soil Erosion and Sediment Control Ordinance.*

Policy 14: *Enact and enforce the proposed amendments to the Soil Erosion and Sediment Control Ordinance as recommended in the Phase II Storm Water Management Plan. Continue enforcement of soil erosion and sediment control ordinance, using the Rhode Island Soil Erosion and Sediment Control Handbook.*

Historical and Archeological Resources

With nearly 100 structures either on or potential candidates for the National Register of Historic Places, the wealth of historic buildings and structures in Tiverton is notable. These resources strongly influence the character of broad areas of the town, such as Stone Bridge, Bridgeport, Nanaquaket and Puncateest. Yet the town has suffered the demolition of many significant structures in recent years. Demolition, alteration and new construction all have the ability to radically alter the qualities of the community that

attract residents and visitors alike. The town's historical resources are not as well documented as they should be. The state survey is not current and many properties eligible for the State and National Register listing have not been listed. Better documentation is needed. This service could be a charge of a local Historical Preservation Advisory Board.

Rhode Island law (Chapter 24.1) provides for historical area protection. Although an historic zoning ordinance was rejected in the early 1990s, the town should reflect upon the reasons for defeat and continue to search for ways to encourage the preservation of its historic treasures in the absence of implementing historic district zoning. These steps may include ongoing education regarding the value of historical structures.

A local Historical Preservation Advisory Board could be a voluntary program to advise and assist property owners on historic preservation matters, and to create community awareness of the benefits of preservation. Such a group could foster pride in the town's historic roots without making demands on property owners. It would also make the town eligible for financial and technical assistance for qualifying historic preservation projects. This board should also coordinate efforts regarding the proposed Seapowet Archaeological National Register District with the RI Historical Preservation Commission.

Policy 15: Create an Historic Preservation Advisory Board that provides advice and assistance on preservation; identifies and provides plaques for historic homes and sites; and provides other education and outreach programs.

In the original plat of the great lots that comprised the chartered town plan for the Pocasset Purchase in 1680, an Eight Rod Highway was laid out as the eastern boundary. Down through history, however, the town grew in different directions, with other roadways becoming more frequented thoroughfares. That portion of the original Eight Rod Highway between Bulgarmarsh Road and East Road ceased to be used and became overgrown by forest. However, there are considerable archeological remains, including stone walls, cellar holes and dug wells. These remains are clearly Colonial in origin, and could represent an extremely valuable link to the original settlement history of the town, and as such should be studied and preserved.

Policy 16: *Solicit assistance from the RI Historical Preservation Commission to acquire funds to study the origins of the Eight Rod Way archeological remains and develop a protection strategy that correlates with the open space preservation effort described in the Open Space, Coastal Resources and Recreation Chapter.*

The town's important archeological resources are also a concern. They are threatened by any nature of development that disturbs the subsurface. In addition to better documentation of these resources, the town's development procedures should be geared to protection. The proposed Historical Preservation Advisory Board should be given the

resources and documentation of potential sites within or approximate to development activity. The board should be called upon to advise the Planning Board as to an appropriate course of action to preserve these materials.

When a proposed development is located within an area marked as archeologically sensitive on the town's archeological sensitivity map, an archeological assessment should be required; if in the opinion of the Planning Board there is likelihood that cultural resources or undetected human remains will be adversely impacted by construction. To assist in reaching its decision, the Board may request an advisory report from the Rhode Island Historical Preservation Commission (RIHPC) concerning the documented or potential archeological importance of the area and whether archeological studies are warranted. When required, the archeological assessment and any additional studies should be conducted by a professional archeologist according to the RIHPC *Standards for Archeological Survey*. When required by the board, the applicant may have to perform such measures necessary to identify, evaluate, protect or properly remove significant archeological sites within the project area.

The 2003 revisions of the town's subdivision regulations provide the Planning Board with authorization to identify and protect archeological resources.

Policy 17: **Site plan and subdivision review procedures should *continue to* include an evaluation of potential archeological resources and possible provisions for their protection.**



Eight Rod Way, a link to Tiverton's early history